REMARKS

Applicant expresses appreciation to the Examiner for consideration of the subject patent application. This amendment is in response to the Office Action mailed March 3, 2006. Claims 1-24 were rejected. The claims have been amended to address the concerns raised by the Examiner.

Claims 1-24 were originally presented. Claims 1-7 and 9-20 remain in the application. Claims 8 and 21-24 have been canceled without prejudice. Claims 1, 19, and 20 have been amended. Claims 25-27 have been added.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 1, 2, 8, 9, 10, 12-16, 20, 22, and 24 (including independent claim 1 and 20) were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vukosic (6,483,439) in view of Chou (4,875,028) and Shute (3,737,651).

Independent claim 1 has been amended to show that the claimed warning beacon includes a transparent housing having a triangular shape constructed out of an impact resistant plastic material that is configured to enable internal reflections of a portion of the light from a plurality of narrow beam LEDs to reflect the light from one side of the transparent housing to another side of the transparent housing. (See specification, page 4, lines 15-33). The LEDs are configured to be narrow beam, high intensity light sources. The combination of the LEDs narrow beam and high intensity enable the light sources to be visible at substantial distances from the warning beacon. The narrow beams also enable the warning beacons to be useful in confined work spaces without impairing vision due to the intensity of the light source, since the high intensity light can be directed away from an equipment operator or other person working close to the beacon.

Despite the narrow beam widths of the directional light sources, the warning beacon can still have substantially 360 degree visibility due to the internal reflections caused by the transparent housing. The combination of using narrow beam, high intensity light sources together with a transparent, triangular shaped housing configured to enable internal reflections of a portion of the LEDs light, allows for a unique warning beacon that can be visible in at least one direction for a great distance, while still being substantially visible over a 360 degree range.

The prior art cited by the Examiner discloses light devices having LEDs with internal reflectors configured to reflect light in a certain direction. However, the use of a transparent cover to provide internal reflections enabling an otherwise substantially directional light beam to be omnidirectionally visible, while still being able to be focused in one or more directions with the high intensity light visible for at least one mile from the beacon in the focused direction(s) is not taught or suggested in the prior art.

For example, Vukosic discloses an omnidirectional warning lamp. The warning lamp employs wide angle LEDs, emitting light at an angle of 120 degrees. This angle is up to 20 times the viewing angle of the LEDs used in the current invention. Such a broad angle would exponentially decrease the viewing distance of the beacon. Thus, Vukosic does not teach or suggest a warning beacon that is both omnidirectional and capable of being viewed at great distances.

Similarly, triangle shaped devices shown in the prior art, such as in Chou and Straten (US 4,952,910), do not disclose the use of a transparent cover to provide internal reflections enabling an otherwise substantially directional light beam to be omnidirectionally visible. The combination of substantial omnidirectional visibility of the warning beacon, combined with the ability to direct high intensity, focused beams over substantial distances enables the warning beacon to be used in unique environments, such as mining and road construction, where the omnidirectional visibility of the device enables the device to be seen in dark conditions by workers, equipment operators, and drivers, while still providing its intended operation of enabling a person to see the beacon at great distances.

Hall (US 5,585,783) discloses a marker light utilizing LEDs disposed on a flexible circuit board. FIG. 1 of Hall shows a transparent cover having 360 degrees of visibility with a folded circuit board inside the cover. The specification teaches placing 10 columns of LED lights on the circuit board. It is assumed that such lights would emit light at an angle of at least 36 degrees to provide even coverage over 360 degrees. Again, this is up to 6 times greater than the viewing angle of the directional lights disclosed in the present invention. The intensities for the LEDs disclosed in Hall are ¼ the intensity of the LEDs disclosed in the present invention. Thus, Hall

would provide considerably less light at substantial distances than focused light emitted in one or more directions as disclosed in the present invention.

Hall also discloses the use of a light housing source that can be constructed of a non-highly polished polycarbonate material to better scatter the light from the LEDs. (Hall, Col. 6, lines 58-63). The use of a non-highly polished polycarbonate material teaches against the present invention. Scattering of the LED light is less effective than the use of direct reflections, as the scattered light is emitted in every direction, substantially reducing the power and limiting the range at which the scattered light can be seen. Furthermore, the use of a non-highly polished material for use in scattering light would dramatically inhibit the amount of light emitted from the directional light sources, which would also significantly limit the distance at which the light source is visible. Hall does not teach the use of a substantially transparent housing for use in reflecting light. Scattering light would be detrimental to the present invention. Thus, Hall teaches away from the present invention.

The present invention, as recited in claim 1, is not taught or suggested in any of the prior art cited by the Examiner, nor in any combination of the prior art. Therefore, Applicant respectfully submits that claim 1 is allowable, and urges the Examiner to withdraw the rejection.

Independent claims 19-20 have been amended similarly to claim 1. Therefore, Applicant respectfully submits that claims 19-20 are allowable for the aforementioned reasons, and urges the Examiner to withdraw the rejection.

Rejection of the dependent claims 2-7, 9-18 and 25-27 should be reconsidered and withdrawn for at least the reasons given above with respect to the independent claim. The dependent claims, being narrower in scope, are allowable for at least the reasons for which the independent claim is allowable.

CONCLUSION

In light of the above, Applicant respectfully submits that pending claims 1-7, 9-20, and 25-27 are now in condition for allowance. Therefore, Applicant requests that the rejections and objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Vaughn W. North at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

Check No. 2568 in the amount of $455.00, is enclosed pursuant to 37 C.F.R. § 1.17(a)(1), for a one month extension of time pursuant to 37 C.F.R. § 1.136. The check also covers the fee for filing a Request for Continued Examination. Three claims were added (claims 25-27), including zero independent claims, while five claims were canceled (claims 8, 21-24), including one independent claims (claim 21). Therefore, no additional fee is due. The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 20-0100.

DATED this 29 day of June, 2006.

Respectfully submitted,

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